

IN THE CLAIMS:

1. (currently amended) An ultrasonic dental instrument grippable by an operator comprising:

a handpiece; and

an ultrasonic insert with a treatment applying tip, wherein the insert is carried by the handpiece, and, wherein the tip is rotatable relative to the handpiece by a force applied only to a portion of the insert wherein the insert includes a torque lock with a plurality of ~~radially~~ radially movable prongs..

2. (original) An instrument as in claim 1 wherein the insert is releasibly coupled for axial insertion into and removal from the handpiece.

d 3. (original) An instrument as in claim 2 wherein the insert carries a user comfortable, deformable, elastomeric member whereby the user can rotate the tip relative to the handpiece.

4. (original) An instrument as in claim 3 wherein the insert includes an elongated body with an end coupled to the tip and a torque transferring cylinder coupled between a portion of body and the elastomeric member whereby the cylinder is mechanically locked to the body by the torque lock such that a rotary force applied to the elastomeric member establishes a torque for rotating the body.

5. (original) An instrument as in claim 4 wherein the cylinder is coupled to the body at a region of minimal axial ultrasonic vibration.

6. (original) An instrument as in claim 4 which includes a cylindrical bearing which is slidably locked to the handpiece in which the torque transferring cylinder rotates.

7. (original) An instrument as in claim 3 which includes a rotary bearing positioned adjacent to the elastomeric member whereby the tip and the elastomeric member are rotatably decoupled from and are rotatable together relative to the handpiece.

8. (original) An instrument as in claim 7 wherein the bearing is located at least in part, adjacent to a region of minimal axial ultrasonic vibration.

9. (original) An instrument as in claim 3 wherein the tip is rotatable through an arc on the order of at least two hundred seventy degrees.

10. (original) An instrument as in claim 3 wherein the elastomeric member comprises silicone.

11. (original) An instrument as in claim 1 wherein the insert carries a user gripping member for rotating the tip.

12. (original) An instrument as in claim 1 which includes a rotary bearing positioned adjacent to an elastomeric member whereby the tip and the elastomeric member are rotatable together relative to the handpiece.

13. (original) An instrument as in claim 12 wherein the bearing has an end located adjacent to a region of minimal axial ultrasonic vibration of the insert.

14. (original) An instrument as in claim 1 wherein the tip is rotatable through an arc on the order of at least two hundred seventy degrees.

15. (original) An instrument as in claim 1 which includes an elastomeric handle wherein the elastomeric handle comprises silicone.

16. (original) An instrument as in claim 1 which includes:
a hollow, generally cylindrical bearing member rotatably latched to the insert wherein the cylindrical bearing member slidably engages the handpiece.

17. (original) An instrument as in claim 16 which includes a deformable gripping handle locked to the insert.

18. (original) An instrument as in claim 16 wherein the insert defines a slot thereon and wherein the cylindrical bearing member is located adjacent to the slot with the torque lock located therebetween..

19. (original) An instrument as in claim 18 which carries a cylindrical user handle, deformable at least in part, wherein an end of the handle is adjacent to an end of the cylindrical bearing member.

20. (original) An instrument as in claim 18 wherein the slot is located on the insert at a region of minimal axial ultrasonic vibration.

21. (original) An instrument as in claim 20 which carries a cylindrical user handle wherein a portion of the torque lock lockingly engages the slot and wherein the bearing member is thereby blocked from axial movement relative to the insert.

22. (original) An instrument as in claim 21 wherein a portion of the handpiece slidably engages the bearing member.

23. (currently amended) An instrument as in claim 17 wherein ~~the~~ a grippable member is carried by an element which slidably engages a region of the insert exhibiting minimal vibration.

24. (original) An instrument as in claim 23 wherein the element has first and second sections wherein one section lockingly engages a slot in the minimal vibration region of the body.

25. (original) An instrument as in claim 24 wherein the second section engages the first section with an interference fit.

26. (currently amended) An instrument as in ~~claim~~ claim 25 wherein the second section has a cylindrical external periphery and carries the deformable gripping handle thereon.

27. (original) A method of assembling an ultrasonic insert comprising:
providing a body portion having a proximal end and a distal end wherein the distal end carries an operating member, the proximal end carries a transducer;
sliding a rotary bearing member over and past the operating member to a location, at least in part, in the vicinity of the proximal end;
sliding a locking member over and past the operating member toward the bearing member and clamping the locking member to the body portion at a region of minimal axial ultrasonically induced vibration thereby blocking axial movement of the bearing member along the body;
sliding a handle over and past the operating member and coupling the handle to the locking member whereby the handle is blocked from any axial movement relative to the body.

28. (currently amended) A method as in claim 27 which includes, in the clamping step, positioning ~~the~~ a locating member to, at least in part, slidably engage a slot on the body.

29. (new) An ultrasonic dental instrument comprising:
an ultrasonic insert with a treatment applying tip; and
a bearing positioned on the insert, the bearing has first and second sections with one section latched to the insert at least in part by a torque lock with a plurality of radially movable prongs, the other section is rotatable relative to the insert.

30. (new) An instrument as in claim 29 where the insert is axially insertable into and removable from a separate handpiece.

31. (new) An instrument as in claim 30 where the insert carries a user comfortable, deformable, elastomeric member whereby the user can rotate the tip relative to the handpiece.

32. (new) An instrument as in claim 29 where the torque lock is coupled to the insert at a region of minimal axial ultrasonic vibration.

33. (new) An instrument as in claim 32 where the bearing is located at least in part, adjacent to a region of minimal axial ultrasonic vibration.

34. (new) An instrument as in claim 32 where the bearing is a two-part cylindrical bearing which is located at least in part, adjacent to a region of minimal axial ultrasonic vibration.

35. (new) An instrument as in claim 30 wherein the insert defines a slot thereon and where the bearing is located, at least in part, adjacent to the slot with the torque lock located therebetween.

36. (new) An instrument as in claim 35 wherein the slot is located on the insert at a region of minimal axial ultrasonic vibration.

37. (new) An instrument as in claim 35 which carries a cylindrical user handle where a portion of the torque lock lockingly engages the slot and where the bearing is thereby blocked from axial movement relative to the insert.

38. (new) An instrument as in claim 37 where a portion of the bearing carries a circular seal.